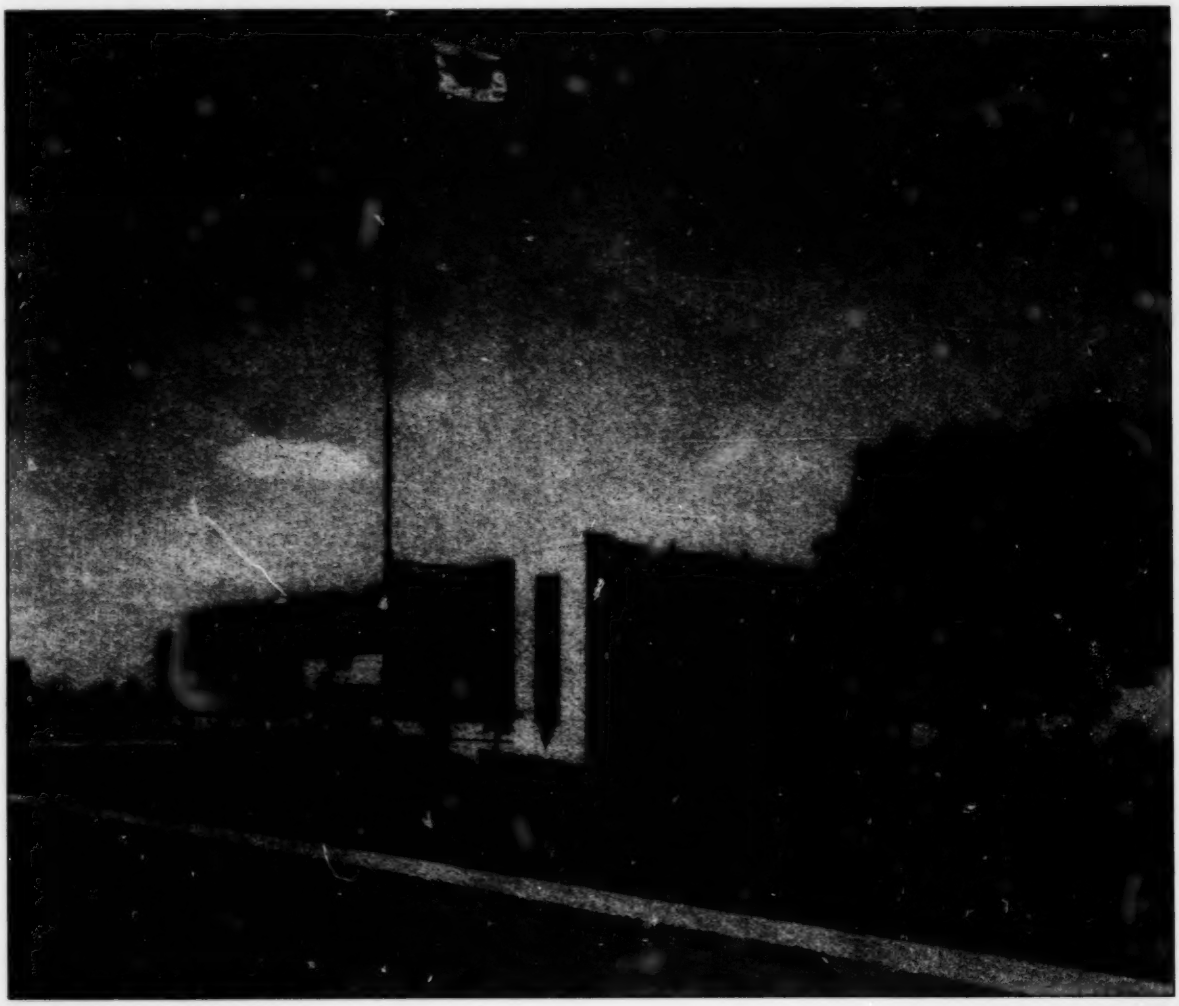
Partnership in forestry: the strategic plan of the Quebec Region 1990-2000

Forestry Canada, Quebec Region



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FORESTRY CANADA'S NATIONAL STRATEGIC PLAN

Forestry Canada's mission is "to promote the sustainable development and competitiveness of Canada's forest sector for the well-being of present and future generations of Canadians."

MISSION

With the turn of the century approaching, the Department has set as its main objective the meeting of three major challenges facing the Canadian forest sector, namely:

1 to increase its ability to compete internationally;

2 to adjust to a changing resource base in Canada; and

3 to respond to growing public demand for more environmentally-friendly forestry practices.

MAJOR THEMES

To meet these challenges, Forestry Canada will be guided in the long term by the principle of sustainable development, while taking into account both economic and environmental considerations, and will focus on the following four strategic areas:

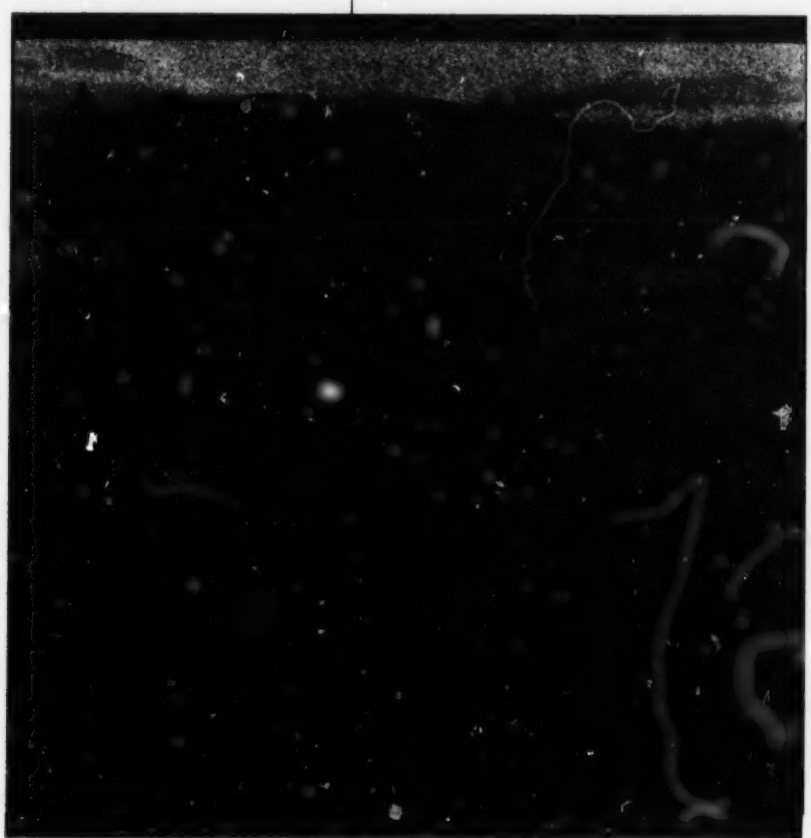
- national leadership;
- forest sector development;
- environmental quality;
- science and technology.

To achieve its objectives and implement its strategic initiatives, the Department will continue to work closely with other federal agencies, the provinces, industry, private woodlot owners, natives, labour groups, universities, professional associations and the general public, who are ultimately the owners and users of Canada's forest resources.

THE FOREST SITUATION IN QUEBEC

PREAMBLE

In forestry, the challenge of the coming years lies in social changes that are occurring not only in Canada, but around the world — the environmental movement. Indeed, with the turn of the century comes a general rise in consciousness regarding the urgent need to act so that future generations may benefit from our resources and our environment as much as we do.



The development of our societies is now beginning to take into account not only economic variables, but also those tied to maintaining the potential of our resources.

The concept of sustainable development is gaining ever wider acceptance. It is the principles underlying this concept that will guide the actions of the various participants in the forest sector.

In the forest sector, this desire to balance economic and environmental considerations will translate into major efforts during the coming decade, particularly in terms of making more versatile use of natural resources and improving processing methods. A prime example is the recycling of products from the pulp and paper industry for which substantial markets will develop in the coming years.

INSTITUTIONAL FACTORS

The management of public forests in Quebec is under provincial jurisdiction, which gives the Quebec government the right to pass legislation governing the development of forest resources on public lands. By extension, the provincial government is also heavily involved in the development of private forests, in which it is a major partner. In both cases, the provincial authority concerned is the Quebec Ministère des Forêts, which oversees the management of forest resources. The Ministère du Loisir, de la Chasse et de la Pêche and the Ministère de l'Environnement oversee the development and protection of other provincial resources. Finally, the departments responsible for agriculture, industry and regional development manage programs that affect wood marketing, industry and the forest sector.

Forest policies

The Quebec forest sector is still undergoing major transformations brought about by the adoption in 1987 of new forest policies. This legislation, contained in Bill 150, introduced several substantial changes in the management of public forests in Quebec. The main ones are:

- varied use of the forest environment and implementation of forest management standards;
- allocation of maximum allowable cuts based on the principle of sustained yield and taking into account the anticipated results of silvicultural operations;
- wood allocation to industries through timber supply and forest management agreements (CAAF) for an initial term of 25 years; agreements are accompanied by annual and five-year management plans;
- priority use of timber from private woodlots;
- mandatory restoration of harvested areas by users to achieve the desired annual yield for each designated area;
- dues based on the stumpage value of timber;
- recognition of the importance of research through the creation of the Conseil de la recherche forestière du Québec (CRFQ — Quebec forest research council).

Participants

The range of participants in this sector is extremely varied. The two levels of government are the most prominent, naturally, because of their policies of managing and supporting forest and industrial development. A Crown corporation, REXFOR, oversees the development of the forest backlog on public lands. Industrial associations also play an important role by representing the interests of their members in both the sawmill and pulp and paper industries. Similarly, woodlot owners make their voices heard through their unions and regional boards as well as through their federation. Joint management groups, represented by their association (RESAM), see that owners implement silvicultural programs. Such groups are becoming increasingly influential. Post-secondary teaching institutions, research centres, professional associations and logging cooperatives also figure among the major participants in the Quebec forest sector.

Issues

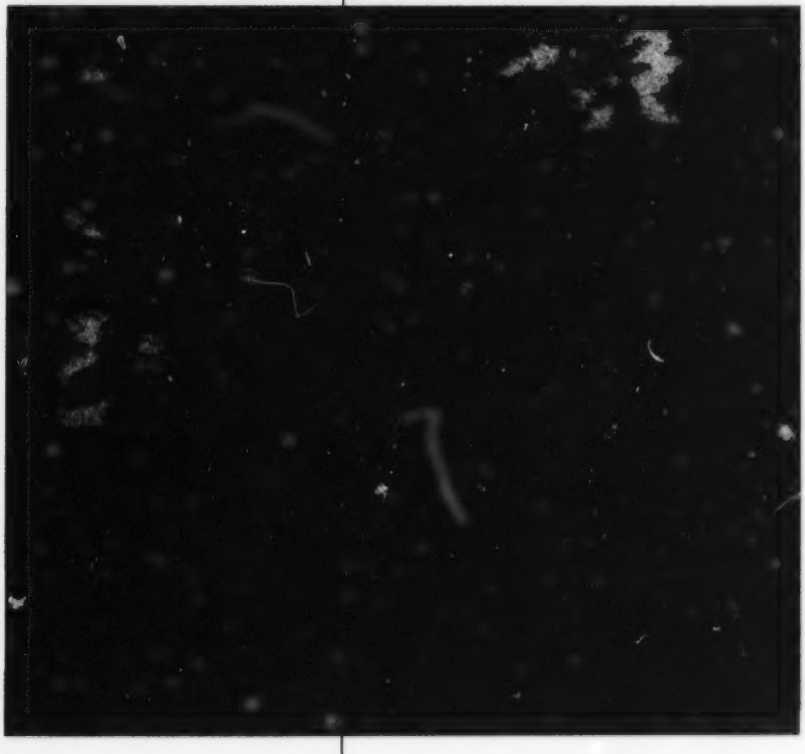
The most recent trends shown by the various players involved in the forest sector point to increasingly integrated management of resources. Pressures are mounting not only on timber resources, but on all natural resources. At the same time, the public is highly aware of the quality of the environment and is more and more critical of certain forest industry practices.

One of the principal concerns of the Canadian government has always been to reduce regional economic constraints and disparities by implementing economic development programs for disadvantaged regions. However, over the past decades, efforts in Quebec have not always produced the desired results. The federal government is therefore seeking to alter its approach to regional development, giving greater weight to its political commitment to the country's poorer regions while respecting the principles it has endorsed with the provinces during federal-provincial conferences.

In the wood processing sector, as in most other key sectors of the economy, it has become necessary to promote greater coordination of efforts. In this sector, there is

an excess production capacity in several administrative regions, and its component industries are only partially integrated.

Finally, the research sector has seen the number of active institutions multiply, and Forestry Canada has had to learn to better define its role. One of the challenges now is to promote greater dissemination of scientific knowledge and a spirit of partnership among the various players, which include the research bodies themselves, research support and steering agencies, and forest sector industries.



STATE OF OUR FORESTS

The forests that are now to be used in a spirit of consideration for all their resources based on the principles of sustained yield have been somewhat disrupted by the treatment they have been subject to over the past few decades. The principal problems we now face concern:

- ***the increased percentage of second-growth forests*** whose species composition and timber production are poorly coordinated to market needs; indeed, harvesting of vast areas of coniferous or mixed forest has often been followed by the appearance of natural regeneration involving a greater proportion of light-demanding species (birch, poplar) than in the original stands; the market is insufficient for these species, which have become very abundant; at the same time, the proportion of coniferous timber has diminished and fir has in some cases replaced spruce or pine; this has made forests more vulnerable to the spruce budworm;
- the remoteness of ***economically attractive stands in public forests***; these stands are still abundant but at very northern latitudes; difficult access, transportation costs and the fragility of these ecosystems, subject to extreme conditions, pose sizeable problems for users;
- ***the declining quality of stands*** in terms of both their health and their genetic potential; the problem is particularly critical for deciduous species but is also being seen among coniferous species; stocks resulting from reforestation are affected as well; this situation exists in both private and public forests;
- ***the effects of environmental stress*** (pollution, climate changes, pests), both current and anticipated; the declining health of certain forests as a result of environmental stress is a recent but very real phenomenon; its scope, its causes and their respective effects are still poorly understood.

STATE OF OUR KNOWLEDGE

Management

Although technology has progressed enormously over the years, and numerous sophisticated tools have become part of the everyday activities of forest managers, the data serving as a base for these tools have remained fairly rudimentary. Thus, despite automation, the data in general use still come from forest maps produced every ten years based on aerial photographs and traditional forest inventories. The performance of these methods is no longer sufficient in light of the imperatives of a new approach to forestry based on comprehensive and up-to-date knowledge of the land.

The tools we use in the year 2000 will therefore have to be more effective than those employed at the beginning of the century. The principal deficiencies that need to be corrected to improve performance are:

- the absence of a descriptive ecological framework and environmental maps that could be used in decision making;
- the lack of expert systems and the need to develop artificial intelligence to guide the decision-making process;
- the need to develop or adapt other decision-making support tools.

Forest research

The orientation of forest research must be determined in such a way as to respect, first of all, the efforts that researchers have invested in long-term activities, notably in the fields of silviculture and forest protection. Some results may take years, even decades, to be conclusive. Constancy is therefore required in the pursuit of this type of work.

Meanwhile, new constraints imposed by the adoption of the principle of sustainable development, market pressures and the current state of our forests are giving rise to needs of growing importance. Intensive silviculture is becoming an indispensable tool in achieving objectives as ambitious as increasing forest productivity while respecting other natural resources. Our tree-farming techniques must be improved, refined and diversified. Tools of the future such as biotechnology must also be given priority. One of their benefits is a rapid boost to the productivity of our silvicultural methods; at the same time, they offer attractive alternatives from an environmental standpoint.

More specifically, the gaps that forest research should address concern the following aspects:

- forest pests live in close relationship to the environment; pest ethology and dynamics must be understood more fully so that preventive management and integrated control methods can be developed;
- pest control methods should be effective but environmentally acceptable;
- climate changes and their probable effects should be better assessed;
- forest management decisions should be made in light of knowledge of tree growth processes, and forest productivity should be better evaluated based on those decisions;
- intensive silviculture should be developed and implemented;
- the effects of logging should be discerned and controlled;
- other natural resources are also among the concerns of sector participants and the general public; these resources must be preserved and developed; forest management should be truly integrated to combine all of these objectives.

FORESTRY CANADA'S PRESENCE IN QUEBEC

BACKGROUND

Forest research

The federal government's presence in forest research in Quebec has evolved significantly over the years. It became tangible in the late 1940s when a team of foresters and researchers was assembled at the Université Laval campus to develop expertise in forest biology and protection. In the early 1960s, the Laurentian Forestry Research Centre was built. Here, a solid group of researchers was formed in the fields of forest biology and pest control. At that time, the federal government was, for all intents and purposes, the only agency conducting forest research in Quebec.

Over the next three decades, the Centre diversified its research activities, and several other bodies entered the field (provincial government, universities, etc.). Silviculture and other aspects of forest science (genetics, remote sensing, physiology) were gradually developed by these organizations.

Today, given its history and the quality of its scientists and their work, Forestry Canada remains a recognized leader and a major player in forest research in Quebec. Of course, there are now many other players as well, but the Department has managed to concentrate its activities in those fields where it excels. It has succeeded in maintaining, in those areas, the level of excellence that gives the Department its high scientific and technical credibility. Forestry Canada can thus continue to play the leading role that its partners acknowledge.

Forest development

The federal government's involvement in forest development began many years ago. In the late 1950s, the first joint efforts to protect Quebec forests were undertaken. For just over a decade, in response to the considerable losses caused by the spruce budworm and because serious concerns had been raised as to the stability of supplies, the Canadian Forestry Service (CFS) shared with industry and the province the cost of aerial spraying against the insect.

Later, rising industrial capacity led to the implementation of a program governing access to resources. This step toward the management of forest resources was the subject of the first generation of agreements reached with the Quebec government in 1974. The creation of a joint program of forest roads was followed in 1976 by the establishment of another basic infrastructure program which was intended to complete and modernize the network of nurseries in Quebec and speed up reforestation on public lands. The two levels of government spent some $130 million on the two programs. In 1979, funds were increased to $322 million, and the agreement gave rise to a program of general assistance to owners of private forests.

The next stage was the one we have just completed under the most recent Canada-Quebec Agreement (1985-1990), in which the reforestation of public and private forest lands absorbed nearly all of the $300 million earmarked. The decision to concentrate on reforestation coincided with the concerns of the time, which were to increase the productive forest surface area to meet increased demand for timber by industry, and the announcement by the Quebec government of an accelerated reforestation program with the ultimate goal of planting some 300 million seedlings a year.

It is with a view to consultation with clients and coordination among partners that the development of forest research must be directed in the coming years.

Federal support therefore contributed greatly to increasing the level and intensity of forest management in Quebec although this progress was slower than the increase in industrial processing capacity and the resulting heavy demand for timber. Thus, as in the case of pest and disease control, access to stands, seedling production infrastructures, reforestation and silviculture in private and public forests have remained a feature of forestry practices in Quebec.

NEW FORESTRY CONTEXT

Specific forest management framework

FOREST RESEARCH: MORE DEVELOPED AND DIVERSIFIED

Increased timber needs and logging operations have led to a multiplication of players in forest research. All of these organizations — the provincial government, universities, colleges and institutes funded by industry and governments — are being heard from in one field of activity or another.

A growing need for direction and coordination has manifested itself over the years and contributed largely to the establishment, in 1988, of a forest research council (CRFQ), as well as a committee to coordinate forest research in Quebec. The former brings together the principal research organizations and their clients to discuss general orientations and priorities to be adopted. The latter is composed of all the heads of research bodies in Quebec who, based on the recommendations made by the Council, develop and coordinate action to be taken on a province-wide scale. Several subcommittees have already been set up to plan strategies on priority matters. As well, a directory of organizations and their research activities has been published.

In addition to having a seat on the research council, Forestry Canada is actively involved in setting up this more developed and more diversified research network, notably by chairing the Coordinating Committee.

FOREST DEVELOPMENT: GREATER INVOLVEMENT OF PARTICIPANTS

The new focus on silviculture already evident in Quebec will increasingly involve all those with a stake in forestry, namely industry for public forests (CAAF), private woodlot owners, the organizations or associations that represent them, universities, etc. The major challenge over the next decade will be to maintain the rate of forest development. Even though considerable private and public investment has been made in the past 20 years to promote the management of our forest resources, only part of our forests is managed and protected in such a way as to ensure a sustained yield, despite an increasingly demanding environmental context.

The new Quebec Forest Act has brought to light the extent of the imbalance between the timber supply and demand. The large gap between natural potential and industrial needs must be filled. It is clear that reforestation can help to some extent in closing the gap, but its real effect on forest potential is usually slow to be felt.

In this new Quebec forest context, we must encourage all participants, managers and woodlot owners in their efforts to pursue silvicultural and technological innovation leading to managed and productive forests, according to their potential.

Meanwhile, Bill 150 has made users responsible for forest renewal after logging. Industry, however, being more cost-conscious, is already voicing its marked preference for an approach favouring natural regeneration.

This new approach should generate gains, in terms of both costs and productivity, by reducing the time it takes to push forest potential upward. Favouring natural renewal, however, is not technically as simple as other silvicultural activities that were previously encouraged. Logging methods must be reconsidered, operating systems re-examined, equipment better adapted and manpower trained accordingly.

Moreover, it seems desirable that future involvement by Forestry Canada include funding to initiate activities aimed at maintaining forest stands. This last stage of management has become inevitable because, until now, all measures implemented or advocated have been aimed at maintaining forest potential.

GUIDING PRINCIPLES

So that its actions will harmonize with its history and the general situation, Forestry Canada-Quebec Region will henceforth adopt the following guiding principles:

- to promote targeted research allowing working groups with sufficient energy to be created; these groups will concentrate on specific problems that reflect major concerns in forestry;
- to coordinate research with other participants in the sector and turn increasingly to partnerships to optimize the contribution of all those involved;
- to further the silvicultural and technological trends already begun in Quebec by providing greater support for forest sector participants with an accent on influential leadership.

Quebec Region adheres fully and enthusiastically to the major strategic aims adopted by Forestry Canada. Whether in terms of leadership, forest development, environmental quality or science and technology, we intend to continue to develop our activities and programs and acquire new expertise according to the goals set out in the national plan.

STRATEGIC ORIENTATION

PREAMBLE

REGIONAL MISSION STATEMENT

The Quebec forest sector will have to evolve in a context in which a dominant feature, in addition to international competition and a changing resource base, will be the view that the environment and its abundant natural resources are not ours to squander as we choose but a legacy we must preserve for future generations.

The mission statement of Forestry Canada, Quebec Region, also contains a commitment to the notion of sustainable development, which takes into account both the economic and environmental aspects of forestry. The statement also sets forth guidelines for our two main fields of activity, namely research and development.

OBJECTIVES

The objectives set by Forestry Canada, Quebec Region, take into account the forest and institutional factors that currently prevail in Quebec and the guiding principles we have adopted. The objectives are also a logical extension of the Department's past record, adapted to the 1990s. Finally, they reflect the various aims suggested by the national strategic plan.

Through its activities, Forestry Canada-Quebec Region will aim to:

- expand scientific and technical knowledge in order to improve the quality and productivity of forests;
- contribute to the development and implementation of practical forest management and protection tools that respect environmental quality; environmental concerns must now be taken into consideration at every level of involvement;

In pursuit of sustainable development and a competitive forest sector, Forestry Canada, Quebec Region, will

• provide leadership in forest research, and

• contribute to the development, transfer and application of sound forestry practices.

- work closely with all partners in the sector so as to promote the coordination of research and development efforts;
- promote dialogue with other federal departments concerned in order to encourage better coordination of forest development or management programs;
- contribute to the enrichment of human resources and provide training accordingly; the key to the future success of the organization lies in the quality of its human resources and job satisfaction;
- foster public awareness of the importance of forests and, more particularly, make its activities known to its clients; the organization must keep its clients informed of its achievements; as for the general public, greater awareness of the importance of forest resources will help give this sector its rightful weight in public policy.

PRIORITY ACTIVITIES

To achieve these objectives and play an influential role in silvicultural and technological development over the next decade, Forestry Canada, Quebec Region, intends to pursue a series of concrete initiatives.

IN FOREST RESEARCH

Study the effects of biotic and abiotic factors on forest ecosystems and develop biological control strategies, including the use of advanced biotechnological tools. Greater efforts will be made to develop basic biotechnology tools that will serve to diagnose pathogens and pests to characterize and produce control agents; these tools will also be used for the genetic improvement of forest trees. At the same time, emphasis will be placed on improving knowledge of trees and forest ecosystems and their relationships with biotic and abiotic factors. This will allow development of management practices that are more enlightened and better adapted to surrounding conditions.

Continue efforts in certain leading-edge fields that will produce significant breakthroughs in technology transfer, giving priority to activities and programs identified by the national plan. For example by:

- establishing forests with one or several industrial partners to showcase rational forest management practices and experimental silvicultural operations; this is a national objective to which the Quebec Region subscribes because it believes in the importance of providing tangible examples to sensitize the public and promote technology transfer with its clients;
- applying decision-making systems (GIS and expert systems) for integrated resource management, making it possible to adapt management tools to the needs of the next decade;
- developing with industry a proven methodology for producing containerized seedlings; this will bring to fruition the efforts of a partnership formula developed in the past few years with private seedling producers in Quebec;

- transferring genetically improved material to industry; this will be the product of long-term research and development work which yields results only gradually; the transfer of this material illustrates the need for persistence in this type of research.

Become increasingly involved in the training of high-calibre scientists and technicians. Training plans for our scientific and technical staff will be followed diligently and carried out to the best of our ability. Training of future scientists will also be encouraged through the supervision and support of graduate students and post-doctoral fellows. The involvement of our scientific staff in forestry training and the hiring of students will round out this effort.

IN FOREST SECTOR DEVELOPMENT

Provide technical and financial support to forest sector participants for the development or use of knowledge aids and planning and forest data management systems so they can make optimum use of a given area.

Provide technical and financial assistance to forest managers and owners to carry out tests and experiments in forestry (methods, techniques and equipment) so that they can improve management and development practices. Activities or initiatives favouring dissemination, popularization or demonstration at the regional level will also be encouraged by Forestry Canada.

Ensure technical and financial assistance for silvicultural operations aimed at restoring to production in certain poorly regenerated areas (private woodlots, Indian lands), but giving priority to the financing of management projects favouring natural renewal, forest maintenance and the more varied use of forest resources.

Initiate additional training of the forest labour force and encourage development of technical and professional expertise. A program to develop human resources is particularly important in the forest sector at a time when workers and agencies must adapt to new forest realities. Recruitment of specialized managers, industrial and institutional training, and skills acquisition are the types of activities planned under this program.

Consult regularly with participants. The production and distribution of appropriate documentation will also be among the activities pursued under the communications plan to be drawn up for each of our development programs.

DELIVERY MECHANISMS

To facilitate the implementation of these activities, Forestry Canada, Quebec Region, intends to collaborate with other participants in the Quebec forest sector through various mechanisms:

RESEARCH PARTNERSHIP

Intensify networking and partnership with the different participants, including universities, industry and funding agencies, to promote the creation of joint research activities. More and more, the work of our researchers must be carried out in connection with that of our partners in other organizations. At the same time, private sector clients (industry, timber producers, nursery operators) must show an interest in our work, providing evidence of its relevance, and contribute to its realization. To this end, there are now several agencies with budgets and programs aimed at fostering this form of partnership and supporting research and development efforts

in industry; they include the National Research Council (NRC), the NSERC, and at the provincial level, the Centre québécois de valorisation de la biomasse (CQVB). We intend to expand and strengthen ties with all such potential partners to put forward a number of joint projects.

MEMORANDA OF AGREEMENT

Endorse memoranda of agreement with the principal participants in the forest sector, including the provincial government, the private sector, teaching and research institutions and band councils. Specifically, these agreements are aimed at supporting the efforts of these organizations with regard to the development and management of Quebec forests.

COORDINATION WITH FEDERAL DEPARTMENTS

Forestry Canada, Quebec Region, will fulfill its mandate by working closely with other federal departments. Cooperation agreements have already been signed with some of them, and others are desirable. Many federal departments and agencies in Quebec are involved directly or indirectly in forest sector development (ISTC, CEIC, DINA, Environment). These memoranda of agreement are aimed at harmonizing programs and activities in this area and at ensuring better coordination of efforts.

OUR HUMAN RESOURCES

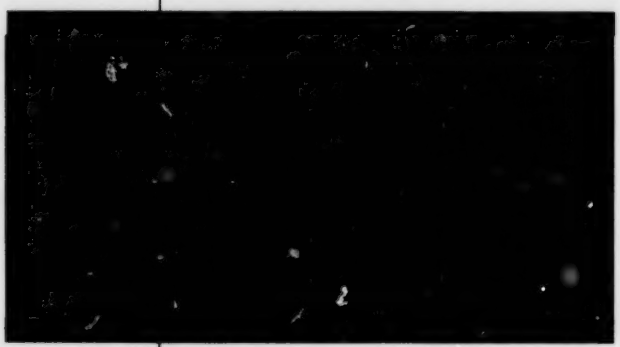
The strategic aims of the staff and management of Forestry Canada in Quebec are being implemented and important initiatives are already in place or under way in several areas of regional activity.

FOREST RESEARCH

With regard to research, our changing priorities have been clearly reflected in the redistribution of human resources. This process began three years ago and we have achieved tangible results in several projects.

Thus, certain areas are seeing their staff strength increased significantly. One such area is biotechnology, which has already

begun to feel the effects of the new priorities on its resources (Figure 1). This trend should continue over the next few years, at least until 1995. Personnel involved in the development and use of biotechnology are working on several projects, notably those concerned with biological control of forest pests and genetic improvement.



In other cases, necessary restructuring has led to significant reductions in staff. This is the case for the Forest Insect and Disease Survey (FIDS) program; many of its activities have been taken over by the provincial government. Forestry Canada has since shifted its attention to more specific surveys, leading to a reduction in personnel assigned to FIDS. This also made it possible to gradually redistribute human resources to other projects with changing needs (Figure 2). The situation has now stabilized and few changes are expected in the next few years.

Finally, several other fields of activity have experienced slow and steady growth over the years, thus reflecting the constant need to which they respond. The genetic improvement project is a good example (Figure 3). Improving trees using traditional methods requires experimental systems that must be monitored over long periods. As new challenges arise, human resources must therefore be increased because it is difficult to reassign people already in place without sacrificing long-term research efforts.

FOREST DEVELOPMENT

As for the forest development branch, even though its existence goes back only to 1982-1983 when it was given the responsibility of administering the Canada-Quebec Agreement on Forest Development, it is forced to operate with a minimum of resources while at the same time having to adapt to new forest realities.

Figure 4 demonstrates how the branch has evolved over the past seven years and illustrates the transition period or organizational shift that began in 1988. The figure shows, among other things, that the "Planning" and "Management" functions have taken on a growing importance in the organization of forest development, while the "Execution" function, in contrast, has steadily declined. It is expected that the actual execution of projects and activities will become more and more the responsibility of other participants and that Forestry Canada will simply manage and control the operations entrusted to its agents.

DEVELOPMENT OF HUMAN RESOURCES

Under the twin banners of excellence and commitment, our employees are combining their skills, aptitudes, and attitudes to achieve the Department's objectives in the region. There is reason to believe that the services provided to our target clients will be greatly improved during the 1990-2000 period.

An organizational development strategy has been drawn up in close cooperation with staff in the region. A development plan for our organization is currently being implemented. Aimed at improving communication and enriching our human resources through ongoing training, the plan will result in a better synergy of our individual efforts for the coming years.

Figure 1
BIOTECHNOLOGY

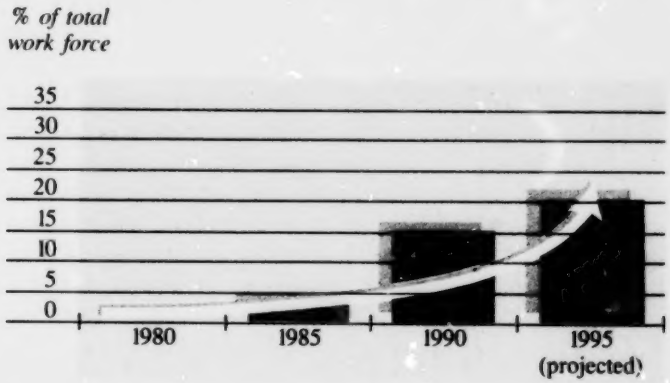


Figure 2
FIDS

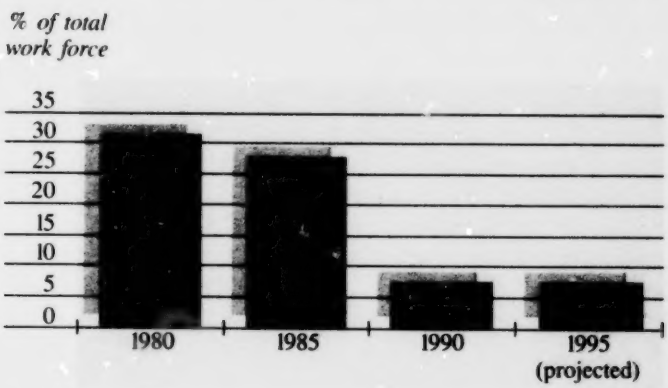


Figure 3
GENETIC IMPROVEMENT

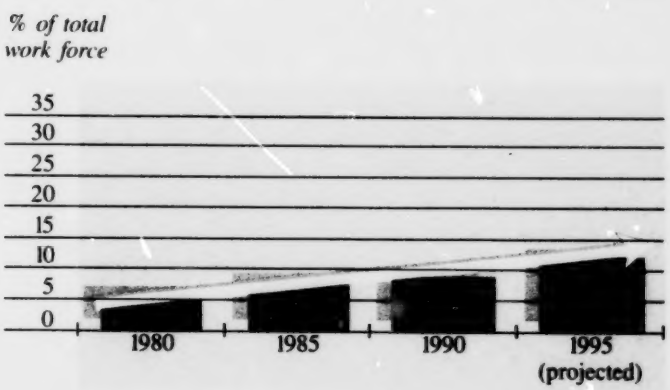


Figure 4
FOREST DEVELOPMENT IN TRANSITION